

REGARDING TREES:

Planning, Design, Construction & Maintenance of the Green Machine



KEITH and SCHNARS, P.A.
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Keith and Schnars, P.A. Landscape Architecture Division



Bruce Reed, RLA



Chris Miller, RLA, ISA, LIAF



Shea Hansen, RLA, ISA



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How do we create the optimum environment that includes trees?



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CHANGE IN OUR AWARENESS

People start realizing that our environments contribute to factors that allow us to enjoy life, be healthy and live longer.

Blue Zones Living Better Longer Dan Buettner at TEDMED 2011

Urban Street Trees: 22 Benefits by Dan Burden

National Complete Streets Coalition



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CHANGE IN OUR AWARENESS



TABLE 1
Large metro areas, ranked by Pedestrian Danger Index

Rank	Metropolitan area	Total pedestrian deaths (2003–2012)	Annual pedestrian deaths per 100,000 (2008–2012)	Percent of people commuting by foot (2008–2012)	Pedestrian Danger Index (2008–2012)
1	Orlando-Kissimmee, FL				
2	Tampa-St. Petersburg-Clearwater, FL	583	2.75	1.1	244.28
3	Jacksonville, FL	874	2.97	1.6	190.13
4	Miami-Fort Lauderdale-Pompano Beach, FL	359	2.48	1.4	182.71
		1,539	2.58	1.8	145.33



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CHANGE IN OUR AWARENESS

Trees are the utility that pays us back.

(www.itreetools.org; USDA Forest Service)

This **12 inch Live oak** provides overall benefits of: **\$142** every year.



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PLANNING – *Making sure the right professionals have a seat at the table*

DESIGN – *Providing the space needed to optimize the environment*

CONSTRUCTION – *Oversight makes it work*

MAINTENANCE – *Care is necessary*



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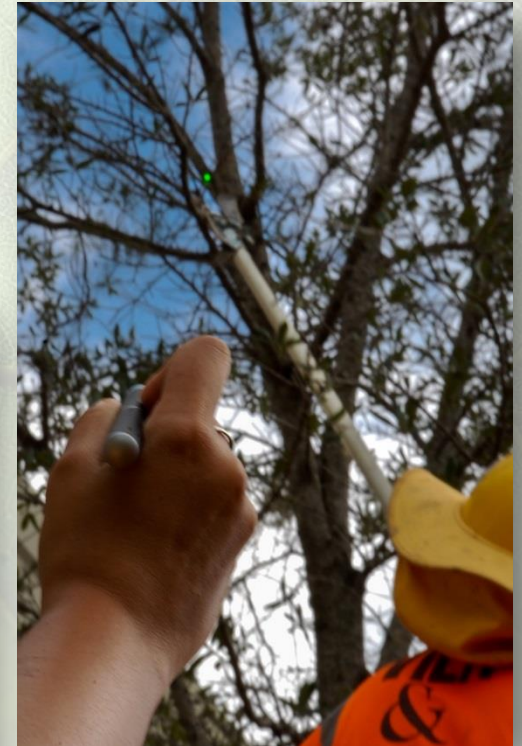
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PLANNING – *Making sure the right landscape professionals have a seat at the table*

LANDSCAPE PROFESSIONALS:

- LANDSCAPE ARCHITECTS (RLA)
- CERTIFIED ARBORISTS (ISA)
- CERTIFIED LANDSCAPE INSPECTORS (LIAF)



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PLANNING – *Making sure the right landscape professionals have a seat at the table*

INCLUDE LANDSCAPE PROFESSIONALS IN APPROPRIATE DEPARTMENTS:

- **PARKS AND RECREATION**
- **PLANNING**
- **PUBLIC WORKS**
- **TRANSPORTATION**
- **CONSTRUCTION MANAGEMENT**



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PLANNING – *Making sure the right landscape professionals have a seat at the table*

LANDSCAPE PROFESSIONALS SHOULD BE INCLUDED IN:

- MASTER PLANNING
- PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
- DESIGN GUIDELINES
- MOBILITY STUDIES
- WALKABILITY STUDIES
- SUSTAINABILITY STUDIES
- POLICIES
- WRITING CODES
- PLAN REVIEWS
- PERMIT REVIEWS



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UTILITIES



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ROOT SPACE



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DESIGN – *Providing the space needed to optimize the environment*

DETERMINING LANDSCAPE OPPORTUNITIES:

- *Limits of Clear Sight*
- *Horizontal Clearance*
- *Roadway Signage*
- *Utilities and off sets*
- *Vegetative Management Zones*
- *Access Management*
- *Intelligent Transportation Systems*
- *Signage*



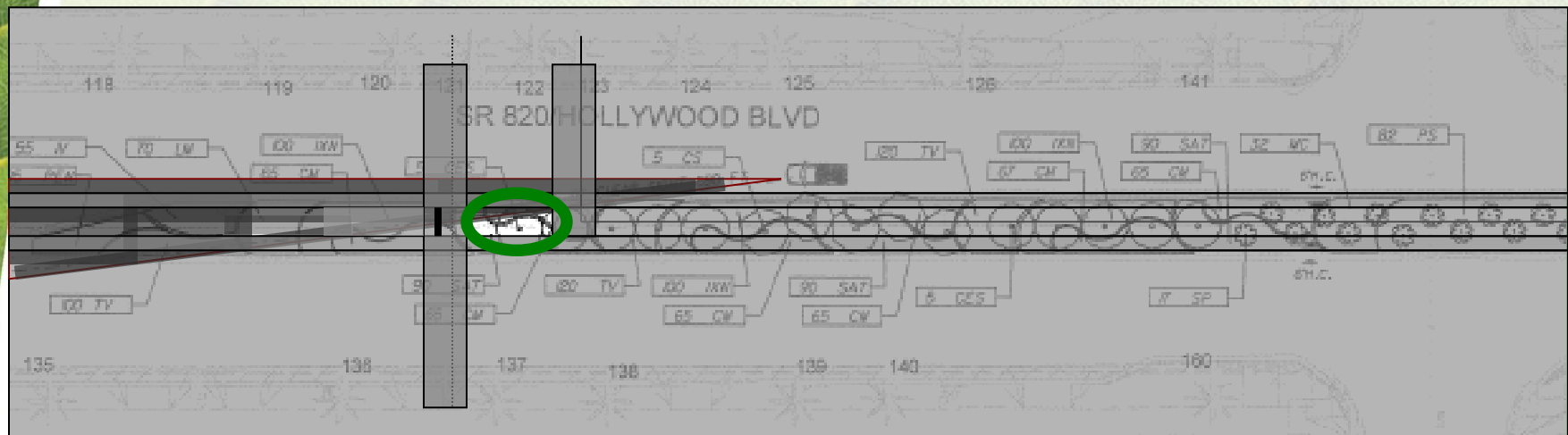
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LANDSCAPE OPPORTUNITIES:



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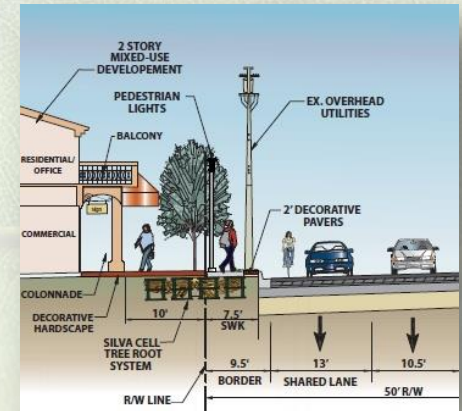
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DESIGN – *Providing the space needed to optimize the environment*

DETERMINING LANDSCAPE OPPORTUNITIES:

Solutions

- *Landscape Architect*
- *Road Diets*
- *Wider Medians*
- *Utility Locations Restrictions*
- *Access Management*
- *Intelligent Traffic System Equipment Coordination*
- *Signage Coordination*
- *Multi-Use of Tree Root Space – Pedestrian/Trees sharing the same space*



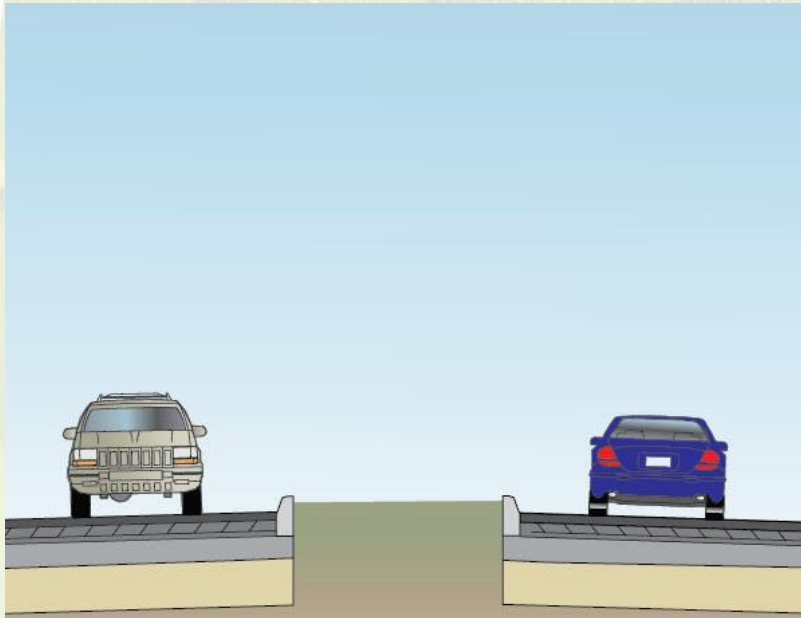
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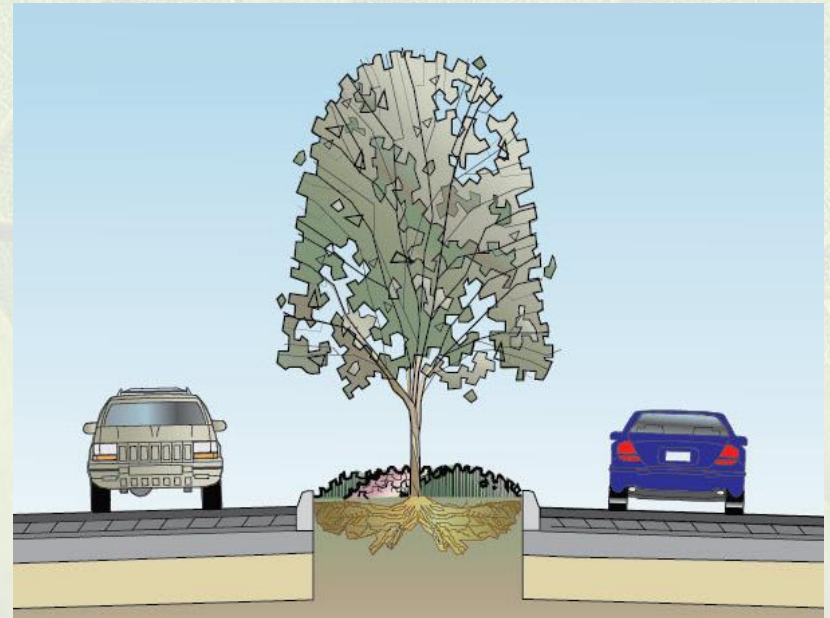
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DESIGN – *Providing the space needed to optimize the environment*

LANDSCAPE OPPORTUNITIES:



12 FT MEDIAN



13 FT MEDIAN



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AVOIDING CONSTRUCTION IMPACTS—



TREE PROTECTION



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AVOIDING CONSTRUCTION IMPACTS DURING DESIGN



**NEVER CUT ROOT CLOSER THAN THE DISTANCE
OF 5 TIMES THE TRUNK DIAMETER**



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DESIGN SOLUTIONS –



SIDEWALK RAMPING



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DESIGN SOLUTIONS –



SIDEWALK RAMPING



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DESIGN SOLUTIONS –



ROOT GRINDING



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DESIGN SOLUTIONS –



BONDED AGGREGATE TREE SURROUND



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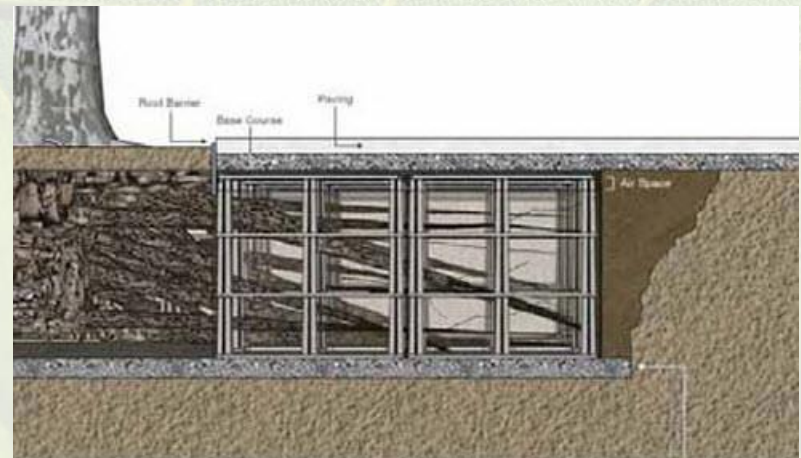
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DESIGN SOLUTIONS –



UNDERGROUND TREE CELLS



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CONSTRUCTION – Oversight makes it work



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MAINTENANCE – *Care is necessary*

- **REGULAR MAINTENANCE SCHEDULES**
- **COMMUNITY TREE INVENTORY**
- **CANOPY TRIMMING DONE BY CERTIFIED ARBORISTS**
- **AVOID WEEDEATER DAMAGE**



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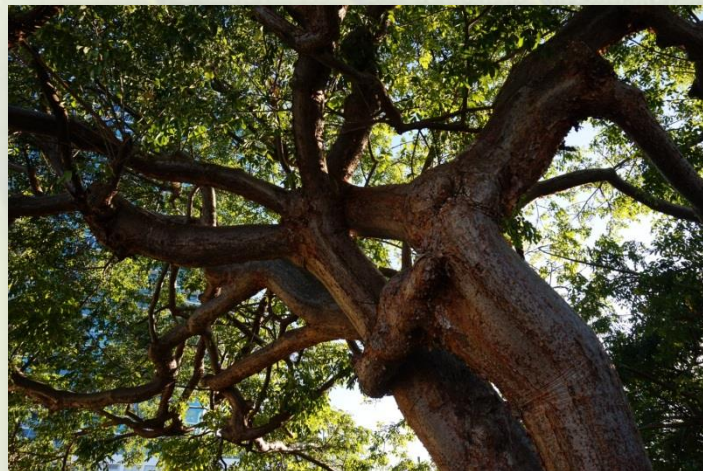
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**THANK YOU.
BE SURE TO UTILITIZE FLORIDA'S
EXPERTS**

<http://ifas.ufl.edu>

**FLORIDA GRADES AND STANDARDS FOR
NURSERY STOCK**



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